

**isc Silicon PNP Darlington Power Transistor**
**2SB1389**
**DESCRIPTION**

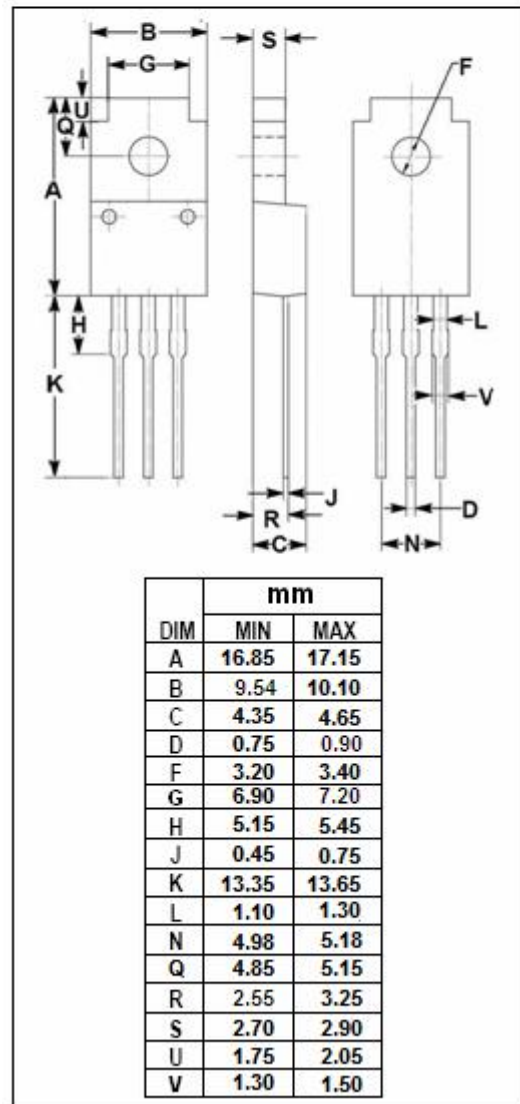
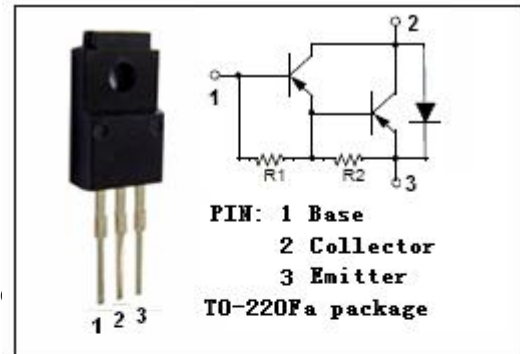
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -60V(\text{Min})$
- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min})@ (V_{CE} = -3V, I_C = -2A)$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for low frequency power amplifier applications.

**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-60	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-4	A
$I_{CM}$	Collector Current-Peak	-8	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	25	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



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**ELECTRICAL CHARACTERISTICS**
**T<sub>j</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -25mA; R <sub>BE</sub> = ∞	-60			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = -0.1mA; I <sub>E</sub> = 0	-60			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -5mA; I <sub>C</sub> = 0	-7			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -2A; I <sub>B</sub> = -4mA			-1.5	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -40mA			-3.0	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -2A; I <sub>B</sub> = -4mA			-2.0	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -40mA			-3.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -50V; I <sub>E</sub> = 0			-10	μ A
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = -50V; R <sub>BE</sub> = ∞			-10	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = -2A; V <sub>CE</sub> = -3V	1000		20000	
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 4A			3.0	V

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